No 30

An Essay
On
Diseases of the Liver

By

Cornelius K. Ayer
of
South Carolina

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Diseases of the Liver

The arrangement which I intend pursuing in this dissertation is the following

I Inflammation. 1 Acute 2 Chronic. Terminations 1 Suppuration. 2 Enlargement from adhesive inflammation. 3 Derangement of function.

II Diseases which result from morbid structure. 1 Scirrhus or permanent enlargement attended with derangement of function including several varieties of tumours. 2 Hydatids.

III Diseases which result from simple derangement of function. 1st Excessive secretion of bile, as in Cholera. 2nd Deficient secretion of bile attended with constipation a Diarrhœa & sometimes with Dysentery.

IV Vitiated secretion producing several forms of bowel complaints & producing, as is now supposed by most Pathologists, the most frequent cause of Hypocondriasis & nervous diseases; such as Dyspepsia, Chorea.

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Acute Inflammation. Physicians have not come to a conclusion concerning the process or change which a part undergoes previous to inflammation; I shall therefore embrace the opinion which of all others appears most reasonable.

When from any cause the circulation is increased that part of the body being most predisposed or whose vessels are in a state of relaxation admits the red globules of blood to pass into its small vessels which become distended & a state of congestion follows. In warm climates where the action of the circulation is for a time much increased from the stimulus of heat, the extreme branches become debilitated & are not able to resist the force of the large vessels & consequently red globules are forced into them, & from being thus irritated inflammation takes place.

The enveloping membrane of the liver is generally the seat of active inflammation & this arises from the increased action of the arterial

system forcing red globules into vessels which naturally pour out a serous fluid. From the vessels in one part being in a greater state of predisposition or relaxation, the inflammation will be topical or general as the case may be. When the vessels take on this diseased action a coagulable lymph is thrown out which confines the inflammation that soon runs into a state of suppuration if not prevented by proper mea=sures. It has been ascertained, that the enveloping membrane of the liver may be highly inflamed + the substance of the liver will be so slightly affected as not to interfere with the secretion of bile.

During active inflammation a coagulable lymph is thrown out which agglutinates the liver with its neighbouring viscera, thus, if the concave surface be inflamed it will be attached to the stomach or duodenum; if the inflammation is seated on the lower edge of the liver, it will be attached to the arch of the colon; if the convex surface be affected, adhesion will take place

between it & the diaphragm. While this process is go=ing on, suppuration takes place & these adhesions serve to conduct the matter from the place of its formation.

Symptoms. As the symptoms are so nearly the same in every case of acute inflammation, I shall notice them as laid down by Faithorn.

It first makes its appearance by shiverings, followed by a pungent pain in the right side, shooting in the direction of the back & the shoulder blade; cough oppression in breathing, nausea, sickness, often with a vomiting of apparently bilious matter, accompani=ed with considerable fever, great watchfulness & oc=casional delirium, extreme thirst; the tongue covered generally with a white crust, extending to the mouth & fauces; dejection of spirits, sometimes hiccup, loss of appetite & difficulty of lying, except on the af=fected side; pressure on the region of the liver increases very much the pain; the bowels are irregular; the urine is secreted in small quan=tity & high coloured.

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The symptoms of suppuration are a diminution of pain, pulsation in the right hypocondrium when the patient lies on the left side; accession of fever towards evening, & a profuse sweating attended with hectic symptoms. When the pain & inflammation suddenly subsides, death quickly follows. Dr Saunders observes, that when the matter is discharged into the intestines, the patient frequently recovers; but if it be evacuated in the cavity of the abdomen, it will prove fatal. The period of suppuration will depend upon the violence of inflammation.

The cure of acute inflammation of the liver depends, we may say, entirely on the use of the lancet, for without it, all is inevitably lost. We are to commence the treatment by copious venesection & if the action of the vascular system still keeps up, we are directed to detract blood topically by cups or leeches. After this we are to administer cool saline purgatives with a strict adherance to a low diet. If the symptoms do not yield, a

large blister is to be applied over the region of the liver & kept discharging for several days. After this mode of treatment, if the disease should not yield, it is generally recommended to employ mercury to salivation.

If after vigorously enforcing the antiphlogistic regimen, symptoms of suppuration should come on & the excitement subside to a low degree, our plan of treatment is to be changed from a debilitating, to a stimulating one. We are to give tonics with a pretty liberal use of wine & a nourishing diet, & we are directed, if the abscess should point externally, to apply a warm poultice over the part & keep it there until the abscess should approach near the surface, then it is to be opened with a lancet or trochar. It is said by Dr Thomas, that the physicians of the East Indies have become so expert at opening abscesses of the liver, that they rarely wait for them to point, but at once perform the operation. In such a case, it appears best to

let it alone, for we not only run the risque of rupturing the abscess, but also of producing peritoneal inflammation. After performing the operation, the wound is to be dressed with some simple ointment & kept open a few days by a tent. The diet is to be nourishing & moderately stimulating.

Chronic Inflammation. This form of the disease is most prevalent in mild & cold climates. It is produced by sudden changes of weather, by exposure to cold; but most frequently it appears to be connected with Dyspeptic affections. It is the opinion of Dr Saunders, that this form of the disease may be induced by an ill cured active inflammation, or by the extreme branches of the vena portarum becoming much debilitated. The liver is usually inlarged. The disease exists before this symptom is perceptible & from the slight irritability of the organ, inflammation will proceed to some extent, before any perceptible sensation will denote the danger. The symptoms of this stage

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are so flattering as to induce the patient to believe, his indisposition is owing to some slight derangement of the stomach, as eructations of wind frequently give him some relief.

Symptoms. The symptoms of chronic inflammation are pain, oppression & soreness of the epigastric region, a tendency to sleep: this sleep affords no refreshment; occasionally there is flatulency with an uneasiness at the stomach; on the slightest exertion of the patient, he becomes very much fatigued, a pain is felt on either side, but most frequently on the left & the patient can only lie on one side. The mind is also much deranged, it is very irritable with a defect of memory. The pulse instead of being accelerated is depressed. The stomach sometimes becomes disordered, though the appetite suffers but little, it is but seldom diminished. The bowels perform their office in a slow & imperfect manner, the urine is variable, sometimes depositing a lateritious sediment & at other times is

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quite limpid. The thirst is not more than natural. When the disease has continued this long, the pain in the right side becomes more severe & extends itself towards the shoulder. After these symptoms have continued for sou time, the system becomes emaciated, the face more particularly; the faces become hard, small in quantity & difficult of evacuation.

After this long catalogue of symptoms, I proceed to the treatment, which is to be conducted upon general principals, such as bleeding, purging & low diet, until we are certain there are no traces of inflammation, then we are to endeavour to effect a thorough change in the system, by the use of Mercury. With a view of preventing the organ from falling into a state of scirrhosity, mercury is to be employed both internally & externally until salivation is induced, which is to be kept up for two or three weeks. Without this consideration all our attempts at a cure will be fruitless.

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After the disease has run on sometime the liver falls into a state of scirrhosity from the vessels performing their office so imperfectly; it sometimes happens independent of previous inflammation. In this case the liver, is either enlarged or diminished in size, but in either case it is indurated. In this stage our only hope lies in the judicious employment of mercury. Calomel in small doses combined with some other purgative is generally used in the commencement conjoined with venesection, blistering &c. After the reduction of arterial excitement however, practitioners are generally most fond of the blue pill in doses of IV or V grs three times a day for the purpose of raising a constitutional action. It appears to me, that this remedy is efficacious chiefly in promoting absorption of the effused coagulable lymph & exciting a secretion of bile, & I should therefore be inclined to prefer the least irritating preparation.

With the exception of adhesions, the liver is most subject to tubercles in its substance. They add one hand more to old age, the youth is very seldom affected with them. This appears to be owing to the greater quantity of calcareous or earthy matter existing in the blood of the old subject. We are led to this conclusion, from seeing the bones in old people becoming brittle from a want of animal matter. From this additional deposition of matter, we readily understand the formation of the most common tubercles of the liver.

There are no exact symptoms by which we can ascertain the nature & appearance of the different varieties of tubercles to which the liver is liable. When the common tubercles exist, the liver is early increased in size, but there is pain & uneasiness in the right hypocondrium. When the parietes of the abdomen are thin & the tubercles situated upon the lower & anterior surface of the liver, they may be felt with the finger.

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The white tubercles are formed first, generally, about the internal blood vessels, but sometimes near the surface. When they exist, which is very rare, the liver is very much increased in size. A species of tubercles exists in the liver, though very seldom, resembling tubercles of the lungs. From their appearance, they have been supposed to be Scrofulous. When these tubercles do exist, the liver is always found indurated & enlarged. There is another species in which the liver is soft & flaccid. These partake of the nature of Fungus Hæmatodes. The liver is sometimes found in a state of flaccidity without the appearance of any tubercles. This change is brought on by what Mr Hunter calls interstitial absorption. In this process, the parts are removed insensibly by the absorbents, without ulceration. The symptoms of these different tubercles are so nearly the same, that it would be useless to notice them seperately when their existance can only be ascertained by feel

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Hydatids. With the exception of the kidneys they are most frequently found in the liver. They are generally found in cysts & each cyst contains one or more of these animals floating in a fluid contain-ed there in. They are of various sizes & the smallest are sometimes found attached to the larger forming clusters. They are most commonly found in the sub-stance of the liver, but are sometimes found attached to the out side, occupying a part of the cavity of the abdomen. As to the origin of these animals physi-cians have not agreed, though it is generally be-lieved they are living animals.

There are no symptoms directly indicating the existance of Hydatids in the liver & the dis-ease can only be guessed at in the living subject. In two cases which came under the notice of Dr Baily, the symptoms were similar to an attack of gall stone. There was a violent spasmodic pain near the pit of the stomach, frequent vomiting &

jaundice with a pulse not accelerated.

In the management of tubercles, our only resource lies in the use of mercury. Calomel is to be active=ly employed for a long time or at least until a change is produced in the secretion of bile. In the treatment of tubercles we are not to overlook the occasional use of cathartics & a proper regulated diet, which is to be low.

We next come to diseases which result from simple derangement of function.

The most simple derangement of the liver, is where there is a simple increase of its secretion, but when the secretion is very immoderate, it subjects the patient to great inconveniance & to dangerous disease. In warm weather & particularly in the East Indies this derangement is very frequent, though the person should be particular in reg=ulating his diet & escape the seduction of in=temperance. It is observed by writers on tropical climates, that the natives are not so subject

to disease from an increased secretion of bile, as strangers. This is quite intelligible; the natives are of a thin attenuated & contracted habit, which shows that the arterial action is carried on languidly: in the foreigner the vascular system is full & active & as it is increased by heat, so is the secretion of bile, for the secretion of bile is generally in direct proportion to the quantity of blood circulating through the liver. Dr Johnson thinks heat alone, is capable of increasing the secretion of bile, as well as of producing more serious diseases of the liver. This, however, does not appear to me exactly tenable. Miasmata, I conceive, must always be combined with heat to produce such effects.

The diseases consequent on an increased secretion of bile, are so numerous, that I shall only mention a few of them. The theories of fever are almost as numerous as the cases; but bilious fever depends chiefly, if not entirely, upon a vitiated secretion of bile. While the bile is passing into the natural

passages, a portion of its watery part is absorbed & carried into the circulation, which gives the skin a yellow tinge, while the more active part is poured into the duodenum, producing nausea, sickness, foul tongue & vomiting, the usual symptoms of bilious fever. It is the opinion of Dr Stearns, that bile in malignant fevers, is taken from the intestines & carried into the circulation by the lacteals. But it appears most probable, that either Diarrhœa or Cholera-Morbus would be induced previous to its absorption or rather before a sufficiency would be absorbed to produce a fever. It is the opinion of Dr Saunders, as well as most other authors, that bile is not the cause of bilious fever. He observes, that nausea & vomiting is produced by an inflammation of the pylorus & upper surface of the duodenum & the bile found in the stomach is the effect & not the cause of fever. As it has never been proved, that inflammation preceded the admission of bile into the stomach, it appears most probable to me,

that the inflammation is the effect of the acrimony of the bile. Again, that fever does depend upon a vitiated secretion of bile, is evident from the disease being frequently removed upon the correction of the secreted bile or upon restoring the secretory organ to its healthy condition.

It is the opinion of Dr Saunders, that the discharge in Cholera Morbus, is a combination of bile & blood; he observes, the rapid manner in which it is poured into the duodenum, confirms the opinion, that time is not allowed for its proper secretion. From the rapid circulation of the blood, a quantity of red globules escape from the capillary vessels into the pori biliarii & unites with the bile, & is thus carried into the duodenum. From the stimulating effect of heat, the inhabitants of warm climates are very subject to Cholera Morbus; but they do not suffer so much from it as strangers.

The main object in the treatment of bilious fever is to correct the secretion of bile & carry it

out of the system. With this view, cathartics appear to be the most appropriate remedy. Emetics are frequently given; but as they increase the secretion of bile & excite an inordinate action in the stomach & neighbouring parts & as bile cannot remain in the stomach without keeping up disease, they ought to be laid aside, & cathartics instituted. Mercury is generally resorted to as a corrective of a diseased liver; but as it has a tendency to increase the secretion, it ought not to be resorted to in such cases. Epsom Salts & other like cathartics not only operate more speedily & effectually, but they also afford greater relief to the sufferings of the patient. In the management of Cholera Morbus, it has been recommended from the remotest antiquity, to give diluents with a view of obtunding the acrimony of the bile & of facilitating its evacuation. We are next to allay irritation, which is effectually done by the lancet & opium. The lancet is to be employed though the pulse should not indicate it; the pulse

in this case is a depressed pulse, therefore if there appears to be ordinary action in the system, we are to use the lancet; but in this case like all others, it is to be regulated according to circumstances. From the effects of Opium on the system, it has been very much extoled in this disease. From the liver being in contact with the stomach, its effects are readily conveyed to the liver which soon becomes tranquilised. After allaying irritation, cathartics are to be employed to carry the remaining bile from the intestines. The particular article to be used, is left to the choice of the practitioner. Epsom Salts combined with calcined magnesia has been employed with advantage.

I next proceed to that state of the liver where the secretion of bile is partly or entirely sus=pended.

Bile is the natural purgative of the intestines & when it is wanting, a variety of diseases make their appearance. Any defect in the structure of the

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liver, may entirely suspend the secretion of bile; it is most frequently dependant on a chronic inflam=mation of the liver. When this organ is in a scirrhus condition or loaded with tubercles, it performs its office, as a secretory gland, very imperfectly.

As bile is the natural stimulus of the intestines, it consequently follows, that when it is by any means prevented from getting into the intestines, consti=pation ensues. That there is in constipation a defici=ency of bile, we conclude from all vegetable al=iments having a tendency to run into the acetous fermentation - as well as from the fact that scarcely any tinge of that fluid appears in the evacuations. It was once supposed that the bile itself would undergo the putrefactive fermentation; but it is now discovered to be a powerful antiseptic. Acting upon this idea, that a deficiency of bile proves the chief cause of constipation Dr Hosack was led to the administration of repeated emetics in that disease, with a view of exciting an abund

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-ant secretion of what I have already stated to be the natural purgative of the intestines. (See his paper, in 1st no of the N-York med. & phys. Journal.)

That Diarrhœa & Dysentery are often dependant upon a want of bile is rendered probable by the fact, that the evacuations are very rarely mixed with any portion of that fluid; but more evidently from this circumstance, that we begin to experiance relief, in those diseases immediately after our remedies have excited a discharge of that fluid.

The treatment of the two last mentioned dis-eases is various, but that laid down by Dr Chapman is I believe, generally prefered.

Vitiated secretion of bile producing several forms of bowel complaints & producing, as is now supposed by most Pathologists, the most frequent cause of Hypocondriasis & other nervous diseases, such as Dyspepsia, Chorea &c.

As bile in its pure or vitiated state, cannot remain in the stomach without producing disease,

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it appears from the symptoms, that it is secondarily affected in Hypocondriasis. As bile is the proper purgative of the intestines, we discover in Hypocondriasis, as one of the first symptoms, a degree of constipation, which adds to the production of all those disagreeable symptoms which characterize the disease. It was supposed, that as the stomach was debilitated by grief & anxiety, that the state of this organ had such an effect on the liver as to derange its secretion & consequently was the seat of the disease. But as we know such a derangement of the liver will produce those effects on the mind, we conclude that the disease is consequent upon such a derangement. We are more more particularly confirmed in the opinion, by being satisfied, by authority, that a chronic inflammation of the liver may exist for some time before any derangement of the stomach takes place & from hepatic occuring more frequently than gastric diseases.

Dyspepsia is generally supposed to be owing to a morbid secretion of the stomach; but by looking into

the symptoms as laid down by authors, we are led to believe the opinion incorrect. Among the first symptoms are nausea attended with a furred tongue which are said by most authors to indicate hepatic derangement. Again, the disease is at most, always a companion of those who lead a sedentary life. As we know the process of digestion is carried on with greater facility when the body is in a state of rest, we cannot suppose that the disease primarily depends upon the derangement of the stomach, but rather upon a diseased liver, which is brought on by leading an inactive life. As a certain degree of exercise is actually necessary to the keeping up a healthy secretion of bile, it is evident, that if this exercise is not taken, the liver will fall into a torpid state, which eventually will take on disease, & as the substance of the liver is diseased, so will be the secretion. Then by a regurgitation of this vitiated bile into the stomach, all such symptoms are produced as are seen in Dyspepsia. That a regurgitation does take

place, is evident from symptoms already noticed, & that it is vitiated, is likewise evident from its not possessing the necessary stimulus to move the intestines which are in a state of torpor. We do not deny, that the disease does sometimes depend upon a diseased condition of the stomach, but not so frequently, as upon a vitiated secretion of bile.

Chorea most frequently depends upon irritating matter in the alimentary canal. The bile by being secreted by a diseased liver, acquires a character foreign to its nature, which in combination with hardened fæces, makes such an impression on the tender nerves of the intestines, as to affect the whole system. As all spasmodic diseases depend upon an affection of the nerves, so we suppose, Chorea is produced, from the nerves of the intestines being affected, which is indicated by a flattering pain first felt in the left hypocondrium. A degree of spasm also takes place in some part of the intestines, else there would not be such a couple state of constipation. By the

nerves of the intestines communicating with various parts of the body, they likewise take on spasm.

The management of these latter diseases are so nearly the same, that I shall include them all under one general head. They may, if taken in time, all be overcome by exercise, with an occasional use of cathartics & proper regulated diet. Cathartics not only move the intestines, but corrects the secretion of bile & promotes its discharge. If the stomach should become weak & debilitated, tonics are to be employed, such as Peruvian Bark, Columbo, Quassa & Hops &c. The tincture of hops, sarsp & Dr Chapman is particularly useful in dyspepsia of drunkards. As Calomel acts more like a specific in glandular derangement, it may be employed in these diseases, if they should not yield to the treatment mentioned.

"In the first stage of Chorea, while the intestines retain their sensibility & the fæces are not accumulated in great quantity, mild purgatives

will answer; but in the second stage, where there is convulsions, abated appetite & impared digestion, more powerful purgatives are to be employed in such a manner as that the latter dose will support the effects of the former, till the movement & expul=sion of the accumilated matter is effected, when symptoms of returning health will appear.

After the bowels have been thoroughly eva=cuated, in order to give tone to them & the general system, tonics are to be employed (Hamilton).